

Appl. No. 10/696,151
Amdt. dated April 18, 2005
Reply to Advisory Office action of March 30, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (canceled)
2. (currently amended) A DRAM cell, according to claim + 10, wherein:
the collar is disposed substantially outside of the trench.
3. (currently amended) A DRAM cell, according to claim + 10, wherein:
the collar is disposed wholly outside of the trench
4. (currently amended) A DRAM cell, according to claim + 10, further comprising:
~~a strap~~ the strap being disposed between the node conducting element and the cell transistor.
5. (currently amended) A DRAM cell, according to claim + 10, further comprising:
a the strap which is being self-aligned with the collar.
6. (currently amended) A DRAM cell, according to claim + 10, further comprising:
~~a strap~~ the strap being disposed in the trench at substantially a same depth as the collar.
7. (currently amended) A DRAM cell, according to claim + 10, further comprising:
~~a strap~~ the strap being disposed in the trench and laterally surrounded by the collar.
8. (canceled)

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9. (canceled)
10. (currently amended) A DRAM cell comprising:
a semiconductor substrate;
a trench extending into the substrate;
a cell capacitor disposed in a bottom portion of the trench;
a cell transistor disposed in a top portion of the trench above the cell capacitor;
a node conducting element connecting the cell capacitor to the cell transistor; and
a collar disposed about the node conducting element between the cell transistor and the
cell capacitor;
wherein:
the collar is disposed in the substrate, at least partially outside of the trench, between the
cell capacitor and the cell transistor;
further comprising:
a strap disposed in the trench and having an outside peripheral surface; and
the collar is laterally adjacent and surrounds the outside peripheral surface of the buried
strap;
wherein:
the strap is embedded into a top surface of the collar; and
~~A DRAM cell, according to claim 9, wherein:~~
the strap extends no higher than the collar.
11. (canceled)
12. (canceled)
13. (canceled)
14. (canceled)

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15. (canceled)
16. (canceled)
17. (canceled)
18. (canceled)
19. (canceled)
20. (canceled)
21. (currently amended) A DRAM cell, according to claim ~~1~~ 10, further comprising:
a recess disposed in a top inside corner of the collar; and
the strap extends into the recess in the top inside corner of the collar.
22. (currently amended) A DRAM cell comprising:
a semiconductor substrate;
a trench extending into the substrate;
a cell capacitor disposed in a bottom portion of the trench;
a cell transistor disposed in a top portion of the trench above the cell capacitor;
a node conducting element connecting the cell capacitor to the cell transistor; and
a collar disposed about the node conducting element between the cell transistor and the
cell capacitor;
wherein;
the collar is disposed in the substrate, at least partially outside of the trench, between the
cell capacitor and the cell transistor;
further comprising:

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a strap disposed in the trench and having an outside peripheral surface; and
the collar is laterally adjacent and surrounds the outside peripheral surface of the buried
strap;

~~A DRAM cell, according to claim 1,~~ wherein:

the strap is fully vertically embedded in the collar and it is laterally surrounded by the collar.

23. (currently amended) A DRAM cell, according to claim 1 22, wherein:
the strap is disposed in the trench at substantially a same depth as the collar; and
the collar extends deeper into the trench than the strap and ~~and~~ covers a bottom surface of the strap.

24. (currently amended) A DRAM cell, according to claim 1 22, wherein:
the collar covers a bottom surface of the strap.

25. (canceled)

26. (canceled)